

ABSTRACT

A laminar flow, suction driven, wind energy conversion device is disclosed for extracting usable energy from wind. The device includes multiple vacuum generators that react with the wind flow to generate usable vacuum. The device avoids the use of potentially hazardous, high speed and exposed rotor or turbine blades of popular wind energy conversion devices and may therefore be safely located within human and animal habitats. The device incorporates many useful and novel features including a pneumatic transmission that the vacuum generators use to drive turbines to produce usable energy from wind energy, a framework that integrates components of the invention into a single structure, a method to cause the framework and components to self-orient into the oncoming wind, valves to manage the non-uniform distribution of vacuum pressures within the device that are caused by turbulent wind flow, and secondary airflow accelerators that serve to maintain an acceptably laminar flow of wind through the venturi-like openings within the device.